

Vol. VI
TRANSCRIPT OF RECORD

(Pages 2455 to 2682)

Supreme Court of the United States

OCTOBER TERM, 1951

No. 428

**PENNSYLVANIA WATER AND POWER COMPANY
AND SUSQUEHANNA TRANSMISSION COMPANY
OF MARYLAND, PETITIONERS,**

vs.

FEDERAL POWER COMMISSION ET AL.

No. 429

**PENNSYLVANIA PUBLIC UTILITY COMMISSION,
PETITIONER,**

vs.

FEDERAL POWER COMMISSION

**ON WRITS OF CERTIORARI TO THE UNITED STATES COURT OF
APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT**

PETITIONS FOR CERTIORARI FILED NOVEMBER 16, 1951

CERTIORARI GRANTED FEBRUARY 4, 1952

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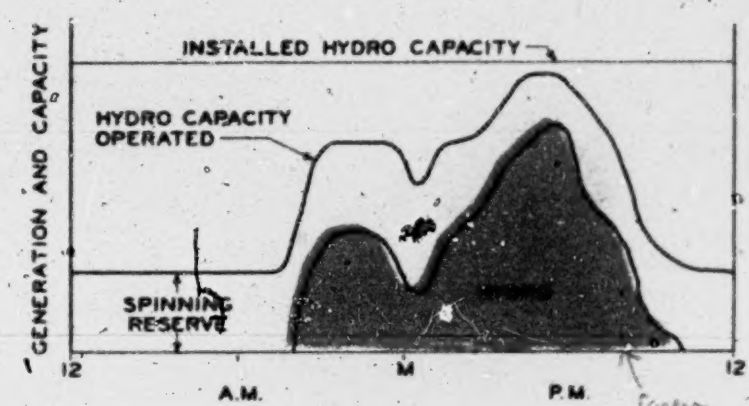
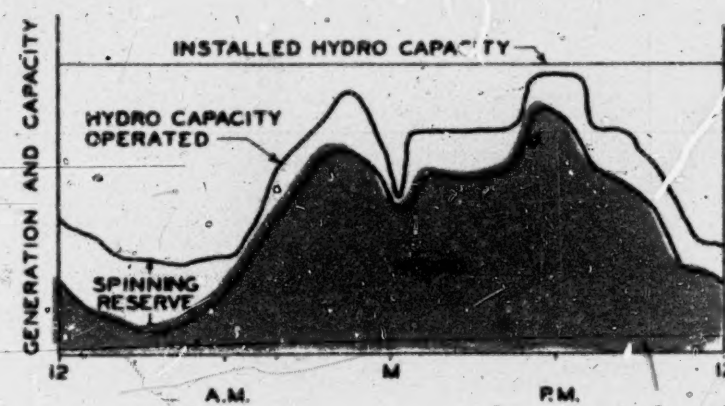
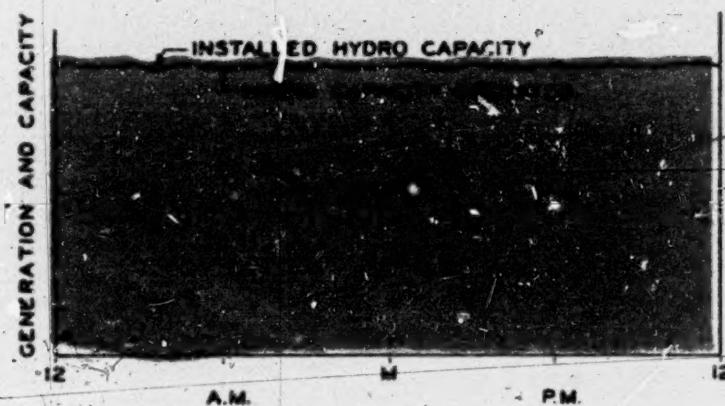
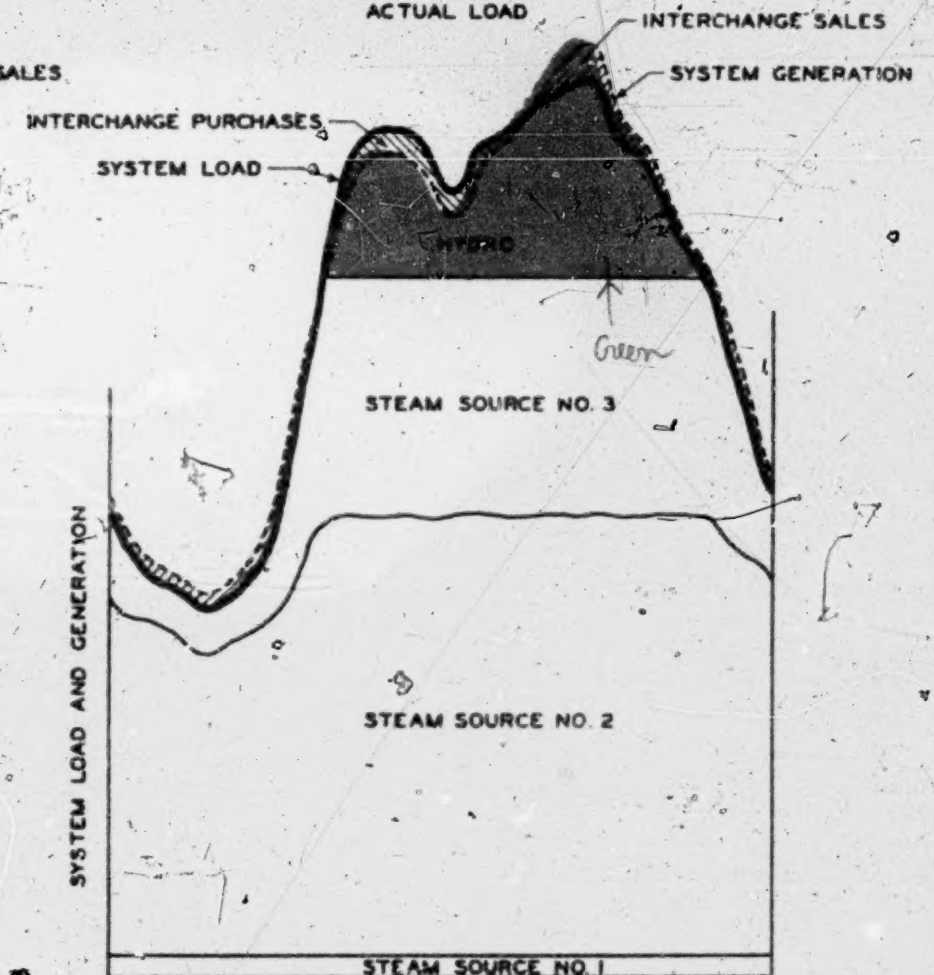
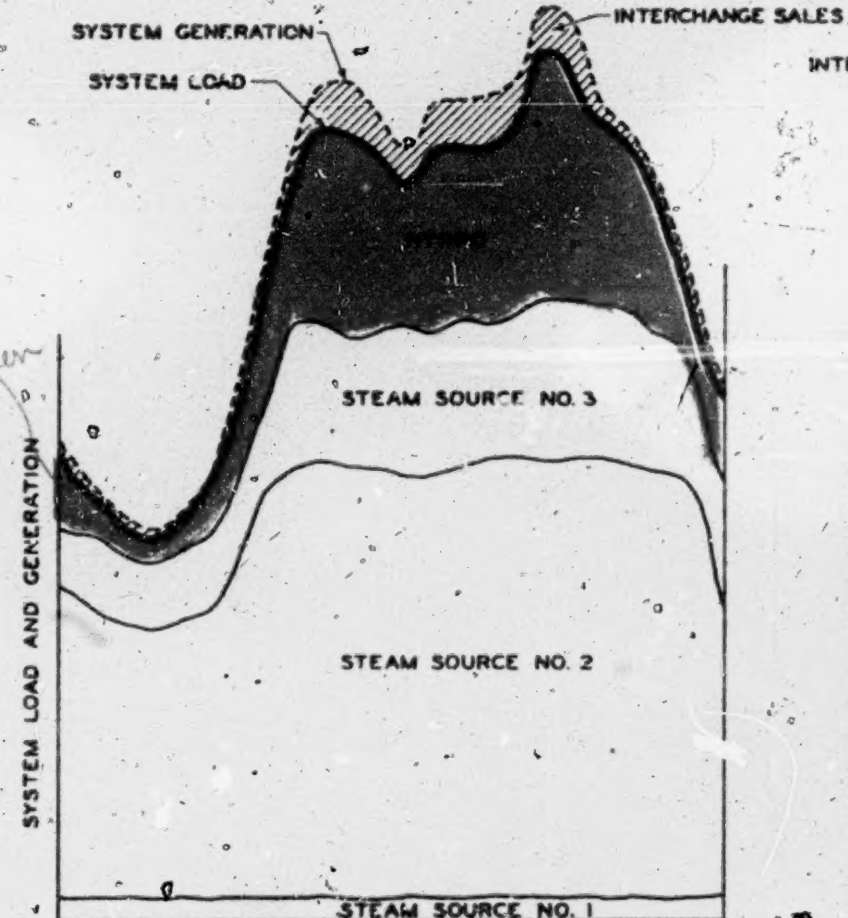
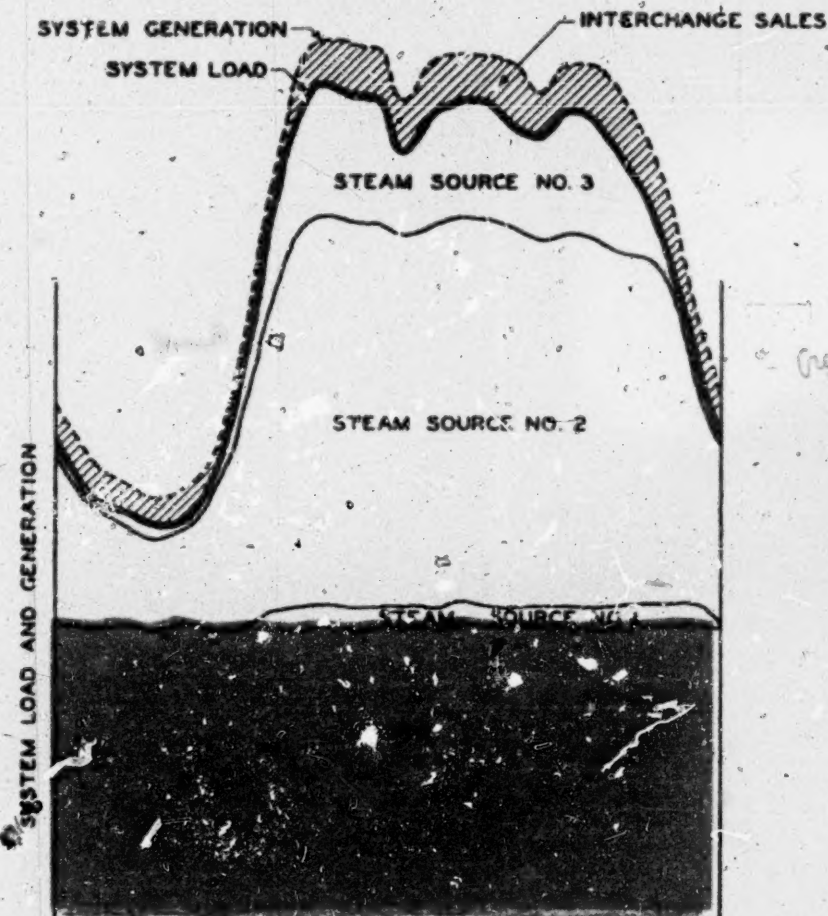
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COORDINATED USE OF HYDRO RESOURCES ON THE INTERCONNECTED SYSTEM

MAR. 19, 1946
 ACTUAL FLOW 124,800 C.F.S.
 ACTUAL GENERATION
 ACTUAL LOAD

DEC. 20, 1945
 ACTUAL FLOW 19,200 C.F.S.
 ACTUAL GENERATION
 ACTUAL LOAD

DEC. 5, 1945
 ASSUMED FLOW 5,800 C.F.S.
 ASSUMED GENERATION
 ACTUAL LOAD



PENNSYLVANIA WATER & POWER COMPANYKilowatthour Sales to and Revenue Received from
Pennsylvania Firm Customers

<u>Year</u>	<u>Kilowatthour Sales</u>	<u>Revenues Received (a)</u>
1944	542,484,700	\$ 3,531,520
1945	517,584,700	3,401,361
1946 (Estimated)	539,300,000	3,562,000

(a) Total revenues received including charges for all services rendered.

This composite form is the result of deletions, changes and additions to the original Power Contract of September 2, 1931, in line with the specific intention of the Supplemental Agreement of August 15, 1934 and the Supplemental Agreement of June 22, 1938. It has been compiled as a working paper for ready reference from the formal agreements.

Certain footnotes have been added to clarify the text, which might otherwise be ambiguous in this composite form.

PREAMBLE TO ORIGINAL CONTRACT

This Contract, made this second day of September, 1931, by and between THE PENNSYLVANIA RAILROAD COMPANY, a Pennsylvania Corporation, hereinafter called "Railroad Company," and the CONSOLIDATED GAS ELECTRIC LIGHT AND POWER COMPANY OF BALTIMORE, a Maryland Corporation, the PENNSYLVANIA WATER & POWER COMPANY, a Pennsylvania Corporation, and the SAFE HARBOR WATER POWER CORPORATION, a Pennsylvania Corporation, hereinafter jointly referred to as "Electric Companies."

WHEREAS Railroad Company is electrifying certain railroad lines for which it desires to purchase electric power and energy, to be available if and when said lines will be ready for electric operation, and

WHEREAS Electric Companies are engaged in the generation, purchase and sale of electric power and energy and own and operate hydro-electric and steam-electric generating

stations and an interconnected transmission system, and desire, jointly and severally, to sell, and Railroad Company desires to purchase, a portion of the electric power and energy requirements for the lines that are now being electrified and that are to be electrified in the future.

NOW, THEREFORE, THIS AGREEMENT WITNESSETH: That for and in consideration of the mutual covenants and agreements hereinafter contained and of the sum of Five Dollars (\$5.00) paid by each of the parties hereto to the other, receipt whereof is hereby acknowledged and of other valuable considerations, Railroad Company and Electric Companies, jointly and severally, do covenant and agree as follows:

PREAMBLE TO SUPPLEMENTAL AGREEMENT

DATED AUGUST 15, 1934

This Supplemental Agreement made this Fifteenth day of August, 1934, between THE PENNSYLVANIA RAILROAD COMPANY, a Pennsylvania Corporation, hereinafter referred to as "Railroad Company," the CONSOLIDATED GAS ELECTRIC LIGHT AND POWER COMPANY OF BALTIMORE, a Maryland Corporation, hereinafter referred to as "Baltimore Company," the PENNSYLVANIA WATER & POWER COMPANY, a Pennsylvania Corporation, the SAFE HARBOR WATER POWER CORPORATION, a Pennsylvania Corporation, the last mentioned three Companies hereinafter referred to as "Electric Companies," and the POTOMAC ELECTRIC POWER COMPANY, a Corporation of the District of Columbia, hereinafter referred to as "Washington Company," and the last mentioned four companies hereinafter referred to as "Supplying Companies."

WHEREAS under a contract dated September 2, 1931, between Railroad Company and Electric Companies, hereinafter referred to as "Railroad Contract," it has been agreed between the said parties to make available to each other from time to time, property and facilities for power transmission, communication, or other similar purposes for such joint use as may appear practicable and desirable, and

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WHEREAS under an agreement entered into subsequent to the Railroad Contract, between Washington Company and Baltimore Company, dated June 16, 1932, and supplemental agreement of even date herewith, which two agreements are jointly referred to herein as "Takoma Agreement," it has been agreed between the said parties, to endeavor to coordinate their system planning and in particular their investments in generating and transmission facilities with the object of effecting maximum overall economy and service reliability, and

WHEREAS Railroad Company desires to change the location of a portion of the frequency changer equipment provided for in the Railroad Contract, from Loudon Park, Maryland, to Benning, D. C., in order to secure better protection to traffic south of Baltimore, improved voltage regulation and other advantages, which benefits were not available to Railroad Company until continuous parallel operation of the power systems of Electric Companies and of Washington Company had been established under the Takoma Agreement of June 16, 1932, and

WHEREAS Electric Companies are willing to agree to the change in location of a portion of the frequency changer equipment from Loudon Park, Maryland, to Benning, D. C., and

WHEREAS Washington Company is willing to provide the necessary equipment to furnish power to Railroad Company at Benning, D. C., and to operate and maintain same

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for Railroad Company's use under the general direction of Electric Companies, and thereby become a party to the Railroad Contract, and

WHEREAS all parties hereto desire that some of the existing transmission lines, communication facilities and other equipment owned by them and certain additional interconnection facilities contemplated under this Agreement, shall be made available for the joint use of the parties hereto in order to secure greater economy in operation and improved service to the Railroad Company and to the public,

NOW, THEREFORE, THIS SUPPLEMENTAL AGREEMENT WITNESSETH: That for and in consideration of the sum of Five Dollars (\$5.00) paid by each of the parties hereto to the other, receipt whereof is hereby acknowledged, and of other valuable considerations, Railroad Company, Electric Companies and Washington Company hereby agree to the following changes, additions and modifications of the Railroad Contract, all other terms and conditions of that contract not specifically modified hereinafter and not inconsistent with the terms and conditions of this supplemental agreement to remain in full force and effect:

PREAMBLE TO SUPPLEMENTAL AGREEMENT

DATED JUNE 22, 1938

This Supplemental Agreement made this Twenty-second day of June, 1938, by and between THE PENNSYLVANIA RAILROAD COMPANY, a Pennsylvania Corporation, hereinafter referred to as "Railroad Company," the CONSOLIDATED GAS ELECTRIC LIGHT AND POWER COMPANY OF BALTIMORE, a Maryland Corporation, the PENNSYLVANIA WATER & POWER COMPANY, a Pennsylvania Corporation, and the SAFE HARBOR WATER POWER CORPORATION, a Pennsylvania Corporation, the last mentioned three Companies hereinafter jointly referred to as "Electric Companies."

WHEREAS Railroad Company and Electric Companies heretofore entered into a contract dated September 2, 1931, for the supply of electric power and energy in connection with Railroad Company's main line electrifications and for the furnishing by Electric Companies of specified facilities required in connection with such supply, and

WHEREAS the said contract was supplemented by an agreement dated August 15, 1934, to which Potomac Electric Power Company, a corporation of the District of Columbia, was also a party; the said contract as so supplemented being hereinafter referred to as the "Railroad Contract," and

WHEREAS Railroad Company and Electric Companies, the parties hereto, now desire to amend and modify certain of the terms and conditions of said Railroad Contract,

NOW, THEREFORE, THIS SUPPLEMENTAL AGREEMENT WITNESSETH: That for and in consideration of the sum of Five Dollars (\$5.00) paid by each of the parties hereto to the other, receipt whereof is hereby acknowledged, and of other valuable considerations, Railroad Company and Electric Companies hereby agree to the following changes, additions and modifications of the Railroad Contract, all other terms and conditions of that contract not specifically modified hereinafter and not inconsistent with the terms and conditions of this supplemental agreement to remain in full force and effect:

ARTICLE I

DURATION OF AGREEMENT

This agreement shall become effective on the date of execution and shall remain in force until midnight of September 30th, 1960.

ARTICLE II

AMOUNT OF POWER AND ENERGY

SECTION 1. The amount of power and energy, hereinafter referred to as "contractual supply," which Railroad Company shall call for and which Electric Companies shall supply when called for by Railroad Company is defined as the entire electrification requirements for passenger, freight and switching service, as and when electrified, including such auxiliary services for signals, light and power in connection therewith as Railroad Company may elect to take, on the main line of the Philadelphia, Baltimore & Washington Railroad from Perryville, Md. to Washington, D. C., on the passenger and freight lines of the present Philadelphia Division between Thorndale, Pa. and Harrisburg and Enola, Pa., on the Columbia and Port Deposit Railroad from Columbia, Pa. to Perryville, Maryland, and yards adjacent thereto and supporting these services.

SECTION 2. Railroad Company may from time to time call upon Electric Companies for the supply of power and energy for additional services on the lines referred to in Section 1 of

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this Article and/or for passenger, freight and switching services on additional lines in connection with extensions of electrification by Railroad Company, excepting, however, that in respect to such lines in the vicinity of, and within a radius of approximately 25 miles from Safe Harbor, Railroad Company shall call for and Electric Companies shall supply the entire power requirements of said lines, including such auxiliary services for signals, light and power in connection therewith as Railroad Company may elect to take. Electric Companies shall supply such additional power and energy when called upon under this Section, under the terms and conditions of this contract, and such additional power and energy, which may be furnished in part by additional single phase hydro generation referred to in Sub-Section 2(d) of Article VIII, shall then constitute a part of the "contractual supply" hereunder, provided, however, that for such additional supply, Railroad Company shall endeavor to give to Electric Companies written request for the supply at least eighteen (18) months in advance of the date when such energy will be required. If due to unforeseen circumstances, Railroad Company requests such additional supply on less than eighteen (18) months' notice, Electric Companies will use their best endeavor to provide such additional system capacity and/or special facilities as may be required, but in such event Electric Companies shall not be charged with any breach of contract for failure so to do within a period less than eighteen (18) months from receipt of the written request.

SECTION 3. It is understood and agreed that the above mentioned boundary or terminal points are approximate des-

ignations, the actual locations being the Railroad Company's substations in the vicinity of such points. The entire power and energy requirements for the above electrified line or lines, up to the capacity of Railroad Company's transmission lines to transmit the power and energy safely and with satisfactory voltage regulation, shall be supplied normally by Electric Companies at all times, commencing with the date when electric train service on the above mentioned railroad lines or any part thereof is inaugurated.

ARTICLE III

FACILITIES TO BE PROVIDED AND POINTS OF SUPPLY

Electric Companies shall install, operate and maintain all generating, transmission and switching equipment, except the 110 kv. 60 cycle circuit described in Section 3 of Article III-A below, necessary to deliver at the points of supply hereinafter designated the amount of power and energy specified in Article II, including such special equipment and facilities provided for use of and at the request of Railroad Company, as may be called for from time to time under the provisions of Articles VIII and IX. The first and second frequency changer originally intended* for installation by Electric Companies at Loudon Park, Maryland, will be installed, operated and maintained by Washington Company at Benning, D. C.

* Under the terms of Original Contract of September 2, 1931, the frequency changers here referred to were to be located at Loudon Park, Maryland. This "original intention" has been changed by the terms of the Supplemental Agreement of August 15, 1934.

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Points of supply shall be at or near the terminals of the 25 cycle single phase generators of the frequency changers, located at Benning, D. C. and Loudon Park, Md.; at the terminals of Electric Companies' 132.0 kv. circuits at Perryville, Md.; at the low tension terminals of the Railroad Company's step-up transformers at Safe Harbor, Pa.; and at such high tension terminals of Railroad Company's step-down transformers as may be agreed upon between the parties. Railroad Company shall provide single phase transmission capacity between Perryville and Loudon Park sufficient to normally transmit not less than 25,000 kw. to the Railroad Company's lines south of the Baltimore tunnels and in addition shall provide for the general transmission use of Supplying Companies, a three wire 110 kv. circuit described in Section 3 of Article III-A below, two wires of which circuit may be used by Railroad Company in emergencies as a reserve 132.0 kv. single phase circuit.

ARTICLE III-A

SUPPLY AT BENNING

SECTION 1. *Amount of Power and Energy Available:* Railroad Company is entitled to receive through the frequency changer equipment at Benning such power and energy as may be needed for its service requirements at Benning and as may be transmitted over the 230 kv. Baltimore supply connection through Takoma in excess of the firm peak service as defined in the Takoma Agreement and/or as may be transmitted over the 110 kv. connection on Railroad Company's right-of-way to Benning. Railroad Company shall be

further entitled to such additional power and energy as can be made available by Washington Company from its own steam generating stations at request of Baltimore Company in excess of Washington Company's system load to the extent that Baltimore Company is entitled to call for such power and energy under Articles IV and V of the Takoma Agreement. It is expressly understood and agreed that Washington Company for the purpose of this agreement shall not be required to install additional generating capacity at its own steam stations and that Electric Companies shall provide generating capacity sufficient to supply the full amount of "contractual supply" defined in Article II.

SECTION 2. *Voltage Regulation, General Operation, etc.:* Washington Company shall adjust the load and voltage on the 25 cycle side of the frequency changer equipment under the general direction of Electric Companies' load dispatcher, but may adjust the voltage on the 60 cycle side to suit best the requirements on its own generating and distributing system within such range as may not adversely affect the stability of interconnection and other characteristics of the combined power supply system or the 25 cycle output to Railroad Company. In addition to its primary purpose of power supply to Railroad Company and secondary purpose of 60 cycle voltage regulation, the frequency changer equipment at Benning, may be used for transmitting in conjunction with Railroad Company's 132.0 kv. circuits, power and energy to or from Washington Company's system to the extent of spare capacity available over such circuits in excess of Railroad Company's own service requirements, and in such manner

as will not materially affect Railroad Company's voltage regulation or transmission losses on the 132.0 circuits, provided however, that Railroad Company's Load Dispatcher may order curtailment or suspension of such interchange of power between Supplying Companies, in the event that Railroad Company's service is adversely affected by such operation. For the purpose of determining the contractual supply to Railroad Company, energy delivered on the 25 cycle side of the frequency changer equipment at Benning shall be combined with the energy delivered to Railroad Company by Electric Companies at the other points of supply, referred to in Article III.

SECTION 3. Reserve Supply to Benning Frequency Changer:
In order to insure to the greatest possible extent availability of 60 cycle supply at Benning in excess of the spare capacity available on Washington Company's own system, Railroad Company hereby agrees to install and maintain in first class order at its own expense that portion of the Baltimore-Benning 110 kv., 60 cycle circuit located on Railroad Company's structures from a point at or near the Patapsco River, where Electric Companies' existing tower line crosses the Railroad, to the 60 cycle transformer station at Benning, D. C.; Supplying Companies providing the circuit extension and transformers connecting this 110 kv. circuit to the Westport and Benning station buses, as provided for in the Takoma Agreement.

The facilities referred to in this section shall be made available not later than the date for which Railroad Company

may request the second frequency changer set at Benning, D. C., as provided for in Article VIII; except however, that in respect to that portion of the Baltimore-Benning 110 kv., 60 cycle circuit located on Railroad Company's structures between Patapsco Crossing and Odenton, at which latter point Baltimore Company may connect this circuit to its own transmission system, Railroad Company if requested by Electric Companies shall provide such portion of this line in advance of the installation of the second Benning frequency changer unit, but not earlier than January 1st, 1936, and excepting further that Railroad Company if requested by Electric Companies shall provide the entire circuit between Patapsco Crossing and Benning at any time after January 1st, 1939. The request for these facilities before the installation of the second Benning frequency changer set shall be made in writing by Electric Companies not less than nine months in advance of the date when such facilities shall be required.

Except for the above mentioned connection to Baltimore Company's transmission system at Odenton, no connection of other facilities of Supplying Companies shall be made to the portion of the 110 kv. circuit located on the structures of, and owned by Railroad Company without the consent of Railroad Company.

SECTION 4. *Additional Services:* If during the terms of this agreement additional* services or equipment covered by Railroad Contract other than those specified herein* or modifica-

* Refers to terms and conditions of Supplemental Agreement of August 15, 1934.

tions in such services or equipment are desired by Railroad Company from Washington Company, such additional services or modifications shall be arranged for from time to time by joint agreement between the parties hereto including Electric Companies. Additional services and modifications of equipment and services, as between Railroad Company and Electric Companies, referred to in the Railroad Contract which do not affect the terms and conditions of this supplemental agreement* as far as Washington Company is concerned, may be agreed upon from time to time between Railroad Company and Electric Companies without requiring Washington Company's consent.

ARTICLE IV

CHARACTERISTICS OF SUPPLY

All electrical energy supplied under this agreement shall be delivered in the form of single phase alternating current at a frequency of nominally 25 cycles per second, at a generating voltage of nominally 13,200 volts. The frequency shall not vary more than three per cent (3%) above or below normal.

The fields of the generators shall be designed and equipped with suitable voltage regulators so that the voltage may be automatically varied from 11,400 to 14,300 volts. Generators of the frequency changer sets at Benning and Loudon Park shall be capable of operating as synchronous condensers and as such shall have a capacity of not less than 60% of the kva. ratings specified for operation as generators.

* Refers to terms and conditions of Supplemental Agreement of August 15, 1934.

ARTICLE V

POWER FACTOR

The power and energy supplied and taken under this agreement shall be at a power factor as near to unity as practicable, consistent with the inherent characteristics of the electric system and apparatus employed and without special or additional appliances for power factor correction.

Each party shall adjust, maintain and operate its apparatus and circuits in such manner as will, to the greatest extent possible, maintain high power factor and avoid the interchange of wattless current, except when necessary to permit the greatest possible use of single phase generation produced by direct connected prime movers.

ARTICLE VI

EMERGENCY SUPPLY

During or following railroad wrecks, extraordinary load demands caused by storms, floods, blizzards, abnormally heavy railroad traffic, derangement of converting or transmitting facilities, failure of the Railroad Company's other source or sources of power supply, or any other emergency condition causing excessive draught on Electric Companies, said draught shall be considered an abnormal demand. The term "abnormally heavy railroad traffic" shall be considered to mean excessive or congested traffic beyond that usually carried by Railroad Company due to accidents, congestion, or failure of other connecting transportation line or lines or other sections of Railroad Company's system to furnish its

or their normal service, or any other emergency conditions causing excessive or congested traffic. Electric Companies, if they have sufficient generating, conversion and transmission capacity available at the time, shall supply such abnormal demand at the billing energy rates but without increasing the billing demand and charges for same under Article VII hereof, provided reasonable notice is given by Railroad Company to Electric Companies as far in advance as conditions will permit.

In case of breakdown of machinery and equipment of Electric Companies or other similar emergencies, Railroad Company agrees upon request to reduce its demand on Electric Companies during such emergency to the extent that it is able to do so without incurring expense thereby, by making use of the emergency facilities of its other sources of power supply.

It is understood and agreed that in thus rendering assistance to each other without charge for increased demand caused by such emergencies neither Railroad Company nor Electric Companies shall be required to render capacity service greater than the capacity of its available equipment or greater than it may be able to secure under other contractual arrangements nor shall either of them be required to subject its equipment or other services to undue hazard or disturbances as to the extent of which each party shall be the sole judge in respect to conditions on its own system. The party receiving assistance agrees to promptly reduce the emergency demand to the then normal demand upon notification from the

other party that such reduction is necessary in order to protect its equipment, preserve its other electrical services or meet the contractual obligations of its other sources of power supply.

ARTICLE VII

RATES FOR POWER AND ENERGY

SECTION 1. *Demand:* As soon as practicable after each calendar month Railroad Company's billing demand in kilowatts of electrical energy taken from or provided by Supplying Companies hereunder for such month in respect to the "contractual supply" specified in Article II, shall be ascertained in the manner hereinafter stated in this section.

From each of three days in the month, Sundays excepted, there shall be selected one even or clock hour which shall be the hour of greatest combined draught (in kilowatt hours) of the day from which it is taken; and said three days shall be such that the total draught of the three hours selected therefrom in the manner thus indicated shall be greater than the total draught of three hours similarly selected from any other three days in the month, Sundays excepted. One-third of the aggregate number of kilowatt hours drawn and consumed by Railroad during the three hours selected as aforesaid from each month shall be taken and considered as the number of kilowatts constituting the Railroad Company's billing demand for such month.

The term "greatest combined draught" (in kilowatt hours) as hereinbefore used is to be construed as representing a single quantity of energy, and the billing demand shall be

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determined from the combined quantity of energy, taken hereunder at the various points of supply just as though the various quantities were measured as one quantity at one point.

For each month during the term of this contract or any extension thereof, the amount of electrical energy which Electric Companies shall stand ready to supply and which the Railroad Company shall be obligated to pay for, shall be not less than two-thirds of the greatest previous billing demand of the "contractual supply" exclusive of the power requirements of Railroad between Parkesburg and Thorndale, Pa.

For the billing demand Railroad Company shall pay at the rate of One Dollar and Fifteen and One-half Cents (\$1.155) per kw. per month.

SECTION 2. *Energy:* The amount of billing energy shall be equal to the total energy metered as per Article XIII at the various points of supply and Railroad Company shall pay for the same at the rate of

Four (4.0) Mills per kwh. for First 5,500,000 kwh. per month.

Three and thirty-four hundredths (3.34) Mills per kwh. for excess above 5,500,000 kwh. per month.

SECTION 3. *Fuel Rate Adjustment:* The amount charged for steam generated energy supplied under this contract shall be subject each month to adjustment by increase or decrease according to the average cost of coal (in the bunkers) as reported monthly by the Consolidated Gas Electric Light and Power Company of Baltimore to the Public Service Commission of Maryland. This adjustment is based upon

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changes in cost of fuel used for generating electricity by steam from a base price of \$4.00 per net ton and shall be determined each month by the following formula:

$$\text{Adjustment in \$} = \frac{\text{Net Steam Gen. in kwh.}}{\text{Tot. Net Gen. in kwh.}} \times \frac{\text{R. R. Bill. Energy in kwh.}}{\text{in kwh.}} \times \frac{\text{Avge. Lbs. Coal per kwh.}}{\text{per kwh.}} \times \frac{\text{Variation in \$ per Net Ton}}{2000}$$

Net Steam Gen. in kwh. = Total kilowatt hours sent out at generator voltage from all steam generating plants of Electric Companies during the month.

Tot. Net Gen. in kwh. = Total kilowatt hours sent out at generator voltage from all the hydro and steam generating plants of Electric Companies during the month.

R. R. Bill. Energy in kwh. = Total energy in kilowatt hours billed Railroad Company during the month.

Avge. Lbs. Coal per kwh. = Average lbs. of coal used per kwh. (station sendout) in all the steam generating plants of the Consolidated Gas Electric Light and Power Company of Baltimore.

Variation in \$ per Net Ton = Difference between base price of \$4.00 per net ton in the bunkers and the actual cost of coal per net ton during the month as reported by the Consolidated Gas Electric Light and Power Company of Baltimore to the Public Service Commission of Maryland.

If at any time during the life of this contract fuels other than the type of fuel now burned are used by Electric Companies in their steam generating plants, the above fuel rate adjustment shall be modified to take care of changed conditions on an equitable basis.

SECTION 4. *Decrease of Billing Rates:* The energy rates specified in Sections 2 and 3 of this Article are to be regarded as maximum rates and it is the intent of this agreement, as provided for in this Section, that Railroad Company shall receive the benefit of lower cost of generation in the event that the average cost to Electric Companies of producing energy is lower than the rates specified in Sections 2 and 3 of this Article. Electric Companies will compute at the end of each calendar year the actual generating and operating costs of the items specified in Tables VII to X, inclusive, attached hereto and made a part of this contract, these items being those specified in the Classification of Accounts of the Public Service Commission of Pennsylvania as operating accounts for steam, hydro, substation and transmission expenses, the hydro costs herein referred to being those of the Safe Harbor and Holtwood plants. In place of the Classification of Accounts of the Public Service Commission of Pennsylvania, the corresponding accounts set up by the Federal Power Commission and/or the Public Service Commission of Maryland may be substituted in regard to those plants and equipment for which Electric Companies are setting up the accounts in accordance with the rules of the above mentioned regulatory bodies.

To this total annual operating cost there shall be added an amount representing an adjustment for excess annual charges on capital costs of the above mentioned hydroelectric plants, equal to the total output of Electric Companies' hydro plants in kwh., multiplied by 3.0 mills. The total figures thus

computed and divided by the total output in kwh. of all generating plants* shall represent the bus bar cost per kwh.

There shall be included in the above computation the amount and cost of purchased energy (other than inter-company supply of Electric Companies), and of supply secured from jointly owned or leased plants or through interchange with other sources of supply, including in such cost Electric Companies' apportionment of expense of operation and maintenance of tie lines and other facilities which are required in connection with such purchased energy or supply from sources other than specifically provided for in Tables VII to X, the intent of the inclusion of such energy and costs being to give Railroad Company the benefit of lower bus bar cost if such lower costs are actually secured by Electric Companies by reason of such purchased energy or supply from other sources.

To the above bus bar cost shall be added a percentage, representing the conversion losses on all energy supplied through frequency changer units at the various points of supply, equal to 12.5% multiplied by the ratio of the total annual output in kwh. of the 25 cycle end of such frequency changer units to the total energy in kwh. billed Railroad Company, to obtain the actual cost per kwh. of energy delivered to Railroad Company. When such actual cost in mills per kwh. so computed is found to be less than the average rate specified in Sections 2 and 3, then this lower value shall be the energy rate to be paid by Railroad Company for all energy supplied in that year.

* Signed copy contains words "and equipment" at this point.

ARTICLE VIII

ANNUAL CHARGES FOR SPECIFIED EQUIPMENT AND FACILITIES

SECTION 1. At the written request of and upon reasonable notice by Railroad Company, Electric Companies shall install, operate and maintain single phase water wheel generators, converting equipment, cables, special 25 cycle bus for single phase supply to Railroad Company and switching equipment, step-up transformers and transmission lines under terms and conditions as herein specified. Railroad Company shall call on Electric Companies to provide additional single phase generating or converting capacity when the maximum integrated clock hour load of the "contractual supply" specified in Article II, exclusive of the power requirements of the Railroad between Parkesburg and Thorndale, Pa., and exclusive of any hour during which an abnormal demand occurs that would not be used in the determination of Electric Companies' billing demand under the provisions of Article VI, is equal to or greater than Electric Companies' total installed single phase capacity less the capacity of the largest of such units. Railroad Company however shall not be required to call for an increase in said single phase generating or converting capacity by reason of deficiency in flow at the hydroelectric generating plants of Electric Companies. Railroad Company shall endeavor to request the single phase water wheel generators and transmission lines not less than eighteen (18) months, and other equipment and facilities not less than fifteen (15) months in advance of the date when such equipment shall be required. If due to unforeseen circumstances, Railroad Company requests such facilities on

less than the above notice, Electric Companies will use their best endeavor to comply with Railroad Company's request, but in such event Electric Companies shall not be charged with any breach of contract for failure so to do within a period less than eighteen (18) months or fifteen (15) months as the case may be.

Railroad Company shall pay annual charges on such apparatus and equipment, including operation and maintenance thereof, as hereinafter specified and described in detail in Tables I to VI attached hereto and made a part of this contract.*

All such equipment shall be complete and adequate for the purpose intended regardless of whether all necessary details and parts are specifically mentioned in the tables. The equipment furnished also shall be adequate and suitable for the character of load and service of Railroad Company throughout the term of this contract, and should any part of such equipment at any time be found to be inadequate or unsuitable, as evidenced by frequent breakdowns or by interruptions to Railroad Company's service, caused by inadequacy or unsuitability of such equipment, Electric Companies shall replace the same without increasing the annual charges herein specified.

Electric Companies shall bill said annual charges pro rata each month commencing with the date specified in the

* Tables I to VI being a part of the terms and conditions of the Original Contract of September 2, 1931, have been superseded by Tables I-A to VI-A under the terms of the Supplemental Agreement of August 15, 1934.

written notice, provided that Electric Companies actually have such equipment ready for service, or commencing with such earlier date that equipment is ready and Railroad Company makes actual use of same.

The initial 25,000 kw. frequency changer and appurtenances to be located at Loudon Park as per Table I shall be located at Benning, D. C., and shall comprise the apparatus and equipment described in Table I-A; also one additional frequency changer set as per Table VI to be located at Loudon Park shall be located at Benning, D. C., and consist of the equipment described in Table VI-A. Tables I to VI are superseded by Tables I-A to VI-A attached hereto and made part of this supplemental agreement.*

Washington Company hereby agrees to lease to Railroad Company for the term of this agreement certain property owned by Washington Company adjacent to or near its Benning Power Station, of approximately one (1) acre to be used as a site for Railroad Company's transformer substation, also right-of-way across Washington Company's property from said substation site to the right-of-way of Railroad Company's Anacostia Branch for a transmission line consisting of poles or towers, three single-phase 132 kv. circuits and one 110 kv. three phase circuit, adaptable to 132 kv. single phase operation, with ground wires, etc., and Railroad Company shall have the right to occupy said substation site and transmission line right-of-way and right of access thereto

* Tables I to VI being a part of the terms and conditions of the Original Contract of September 2, 1931, have been superseded by Tables I-A to VI-A under the terms of the Supplemental Agreement of August 15, 1934.